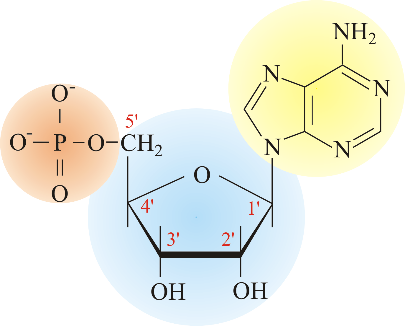
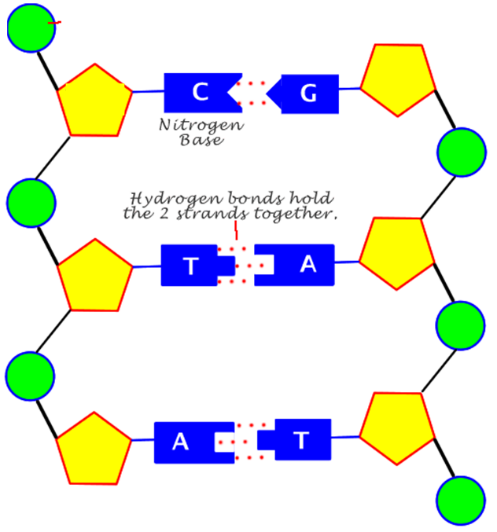
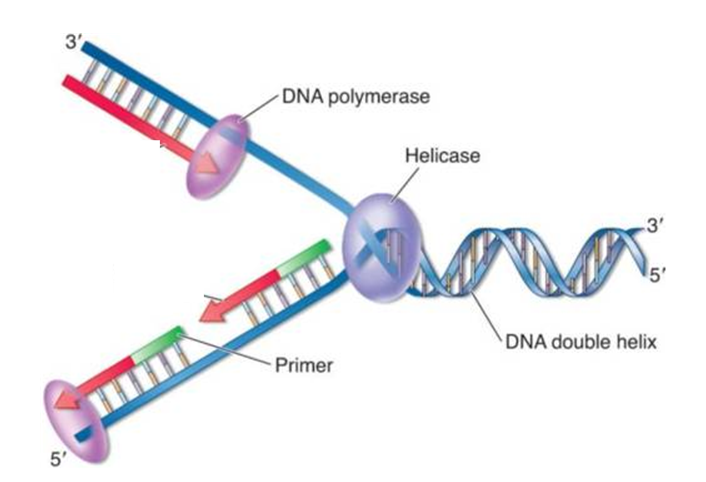
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

**Notes Questions for the Unit 11, Part 1 Notes: DNA History, Structure, and Replication**

Mrs. Krouse, AP Biology

1. Explain how Griffith’s experiment led him to the conclusion that some genetic molecule was being passed between S and R strain bacteria.
2. Explain how Avery, McCarty, and Macleod’s experiment led them to the conclusion that DNA was the genetic material found in bacteria.
3. Explain how Hershey and Chase’s experiment led them to the conclusion that DNA was the genetic material found in viruses.
4. How is the work of Franklin and Wilkins related to the work of Watson and Crick?



1. Label the parts of the molecule shown to the right? What is this molecule called?
2. Label the 5’ and 3’ ends of the DNA double helix shown to the right. Explain the meaning of the following statement… “The two strands in the DNA double helix run antiparallel to each other.”
3. If the amount of adenine in DNA molecule is 17%, how much guanine is present?
4. How are prokaryotic chromosomes different from eukaryotic chromosomes? Why do prokaryotic chromosomes have only one origin of replication, whereas eukaryotic chromosomes have multiple origins of replication?
5. Identify the leading and lagging strands of daughter DNA in the image of DNA replication shown to the right. Explain how you knew which was which.
6. Identify the role of the following enzymes in DNA replication…

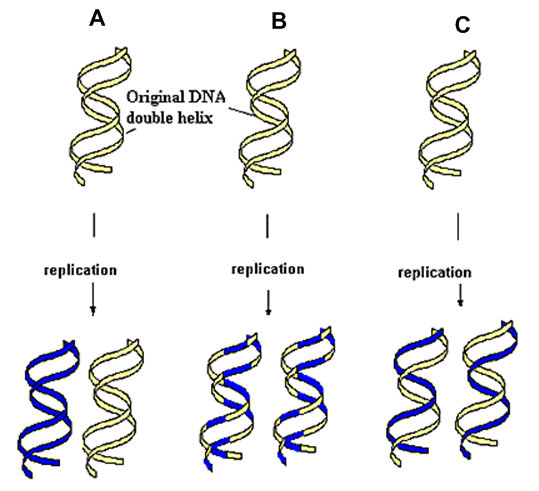
Helicase:

Topoisomerase:

Primase:

DNA polymerase:

Ligase:

1. Which image to the right (A, B, or C) corresponds to the semiconservative model of DNA replication? How do you know?
2. Which image to the right (A, B, or C) corresponds to the conservative model of DNA replication? How do you know?
3. Which image to the right (A, B, or C) corresponds to the dispersive model of DNA replication? How do you know?
4. Which model of DNA replication (semiconservative, conservative, or dispersive) is correct (actually happens in cells)?
5. Explain the difference between proofreading during DNA replication and excision repair.